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Economywide Strategies Subgroup
Meeting 7

August 29, 2022

Slides are created for discussion and do not reflect any specific recommendation or opinion

Workgroup Overview

> This subgroup will provide further evaluation and guidance regarding the three economy-wide approaches identified in the Draft Scoping Plan.

Meeting 7 Agenda

> Recap of priority criteria and the report out during the CAC meeting

> Overview of EITE industries

> Overview of Straw Proposals & discussion

> Summary of meeting takeaways & prep for Meeting 8

Level Setting

> This is an invitation only subgroup.

> Participation in all meetings is encouraged.

- The team will be flexible to the extent possible.

> State staff will be responsive to questions but not participate in the discussion.

> Chatham House rule will guide our discussions.

> Notes and presentations from the meeting will be posted to the website within one week.

> Alternative options and perspectives will be considered should consensus not be achieved.

Workplan

Meeting Date	Meeting Focus
Meeting 1 – June 27 2:00-3:30 PM	Setting the Table for the Work Ahead/Refining and Prioritizing Criteria
Meeting 2 – June 29 9:30 – 11:00 AM	RFF Presentation/Identifying Further Clarity Needed
Meeting 3 – July 20 9:00 – 11:00 AM	Rationale Discussion/Finalizing & Applying Criteria (Emissions)
Meeting 4 – July 25 2:00 – 4:00 PM	Applying Criteria (Certainty and Sufficiency of Funding and Use of Proceeds and Consistency with Other Regulatory Programs; Equity)
Meeting 5 – August 8 2:00 – 4:00 PM	Applying Criteria (Economic; Incorporating Multi-Jurisdictional Programs and Maintaining Administrative Simplicity)
Meeting 6 – August 22 2:00 – 4:00 PM	Setting Priorities for an Economywide Policy
Meeting 7 – August 29 2:00 – 4:00 PM	Comparing and Contrasting Potential Approaches/Incorporating Public Comment
Meeting 8 – September 12 2:00 – 4:00 PM	Finalizing Recommendation

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Priority Criteria

Priorities for an Economywide Policy Recommendation

- Emissions
  - **Certainty of emission reductions to comply with state limit**
  - Potential for minimizing carbon price and/or maximizing abatement/$
  - Application economy wide or to specific sectors
  - Reduction of co-pollutant emissions
- Economic
  - **Price certainty**
  - **Mitigating risk of leakage**
  - **Supporting economic development and innovation**
  - **Maintaining affordability for consumers/businesses**
  - Regional equity
- Equity
  - **Prioritizing emissions and pollutant reductions in DACs/avoiding hotspots**
  - **Affordability and avoiding regressive impacts**
- Programmatic
  - Certainty and sufficiency of funding and use of proceeds
  - Incorporating multi-jurisdictional programs
  - Consistency with other regulatory programs
  - Maintaining administrative simplicity

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EITE Industries

EITE Industries - Concept

> Energy-intensive: industries that consume a high amount of energy (electricity, fuel, etc.) relative to the value of their economic output. (*Example: chemical manufacturing*)
  - Historically, due to a lack of clean power, "energy-intensive" has also meant "emissions-intensive."

> Emissions-intensive: industries that emit a high level of greenhouse gases relative to the value of their economic output. (*Example: cement manufacturing*)
  - May consider emissions of multiple types – electricity use, fuel combustion and industrial processes.

> Trade-exposed: industries in highly competitive markets with price-sensitive customers.
  - Often measured by the extent to which products are bought and sold across borders as opposed to industries whose customers cannot easily switch to competitors outside of the jurisdiction. (*Example: cut and sew apparel manufacturing vs. local retail stores*)
  - Less able to charge higher prices for their products because customers have access to numerous competitive substitutes and will simply shift their purchases away from any higher-cost producer.

EITE Industries - Implications

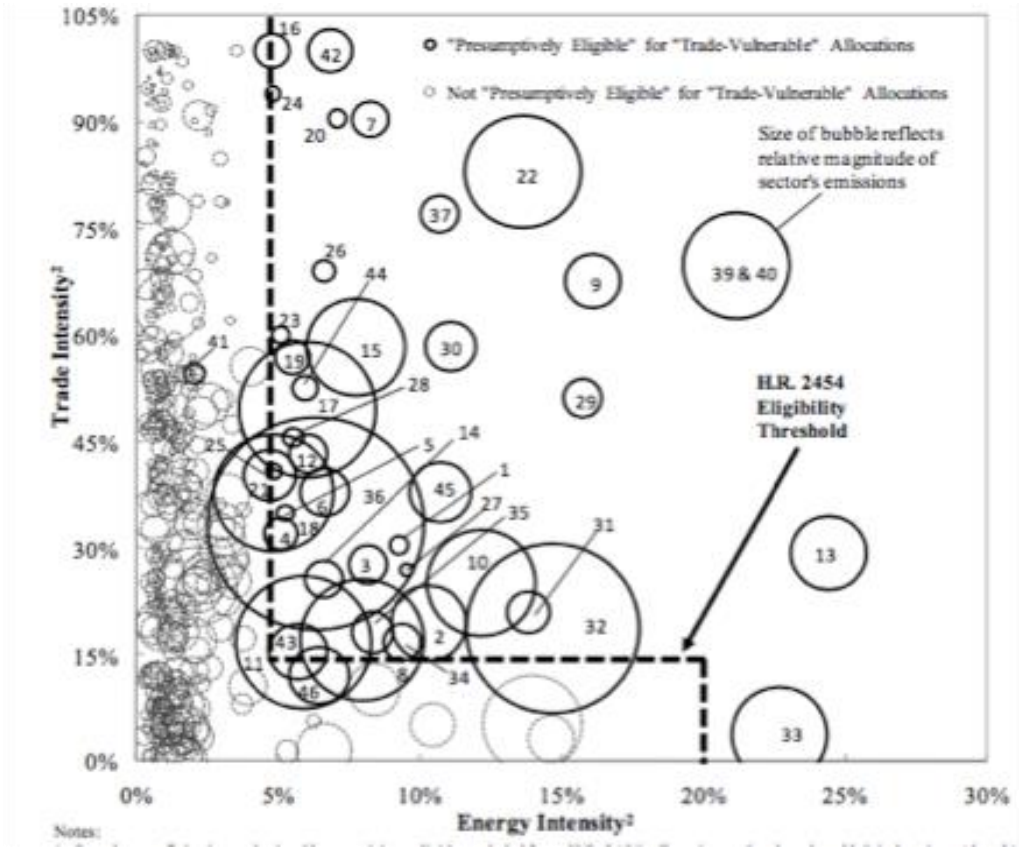
> Industries that are both “EI” (in one or both forms) and “TE” may be most sensitive to leakage in jurisdictions with stricter emission controls and clean energy policies.

> This risk stems from the fact that:

- Due to their “EI” status, without mitigation, the sector will face the highest costs of compliance relative to their size with respect to energy or emission policies; and
- Due to their “TE” status, the sector has the least ability to pass those costs along to their consumers, meaning that they may, over time, shift production away from high compliance cost jurisdictions.

> As a result of these factors, jurisdictions seeking to enact significant energy or emission policies have sought to identify and protect EITE subsectors from leakage.

Example: EITE Industries Under the American Clean Energy and Security Act (2009)



U.S. ACES Example:

Industries generally qualified as EITE if they met at least one of two tests:

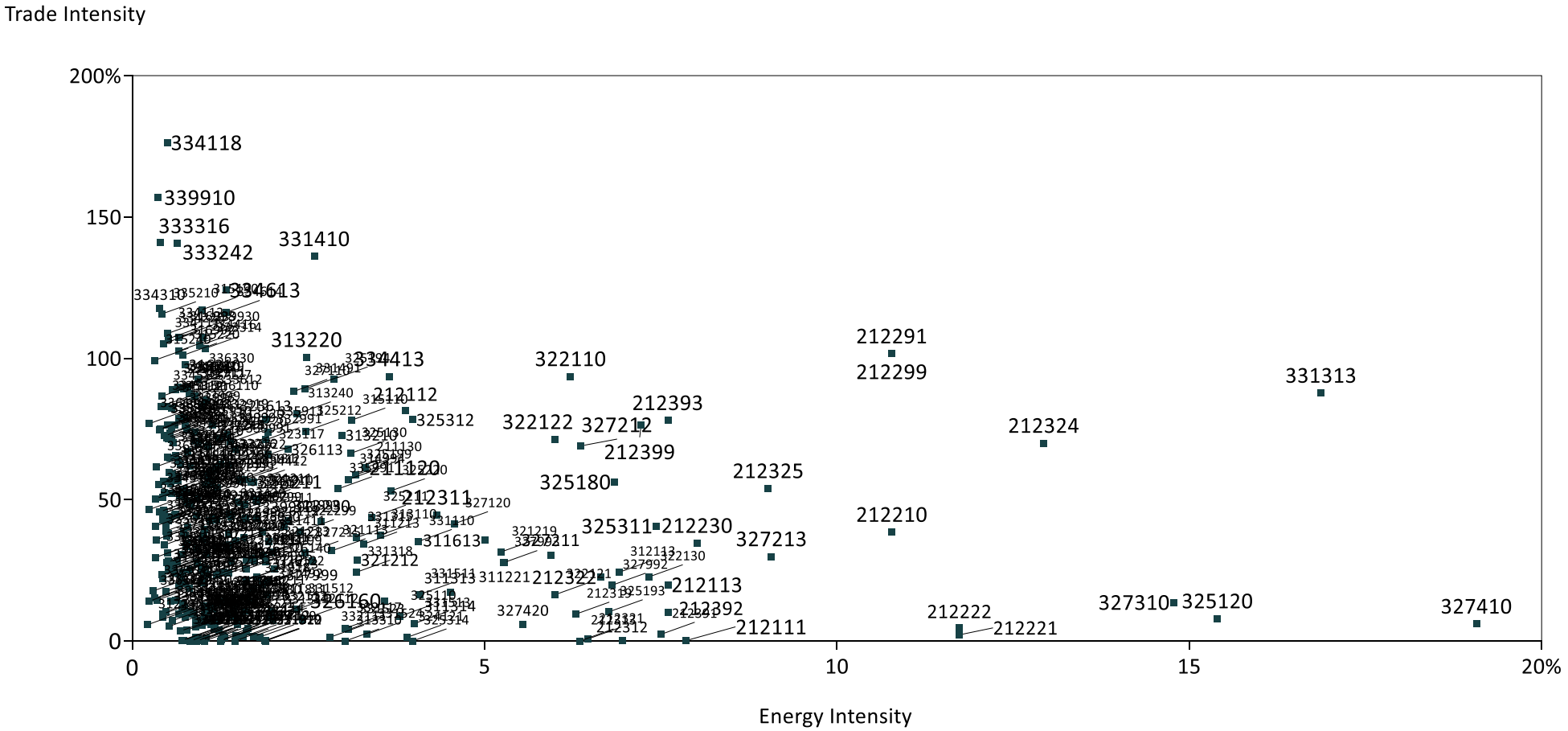
- >5% Energy or Emissions Intensity; AND >15% Trade-Exposed; OR
- >20% Energy or Emissions Intensity

Select EITE Sectors Under U.S. ACES Definition

- Aluminum Production
- Cement Manufacturing
- Chemical Manufacturing
- Glass Manufacturing
- Iron and Steel Mills
- Paper, Pulp & Newsprint Mills

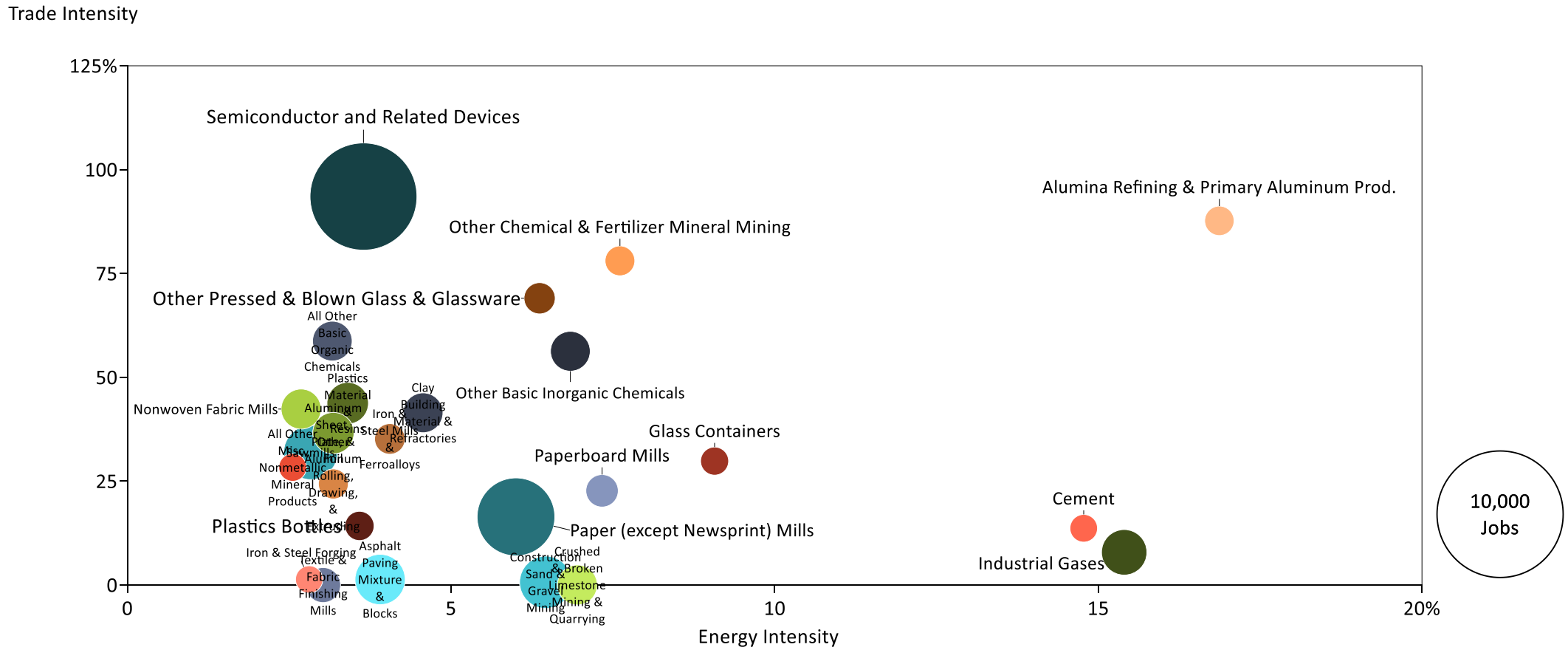
Source: Energy Intensity, Trade Intensity, and Emissions of U.S. Manufacturing Sectors at the Six-Digit NAICS Code Level, Federal Interagency Report on International Competitiveness and Emission Leakage in Energy-Intensive Trade-Exposed Industries, Figure 2, p. 11 (December 2, 2009).

Preliminary Results: Energy vs. Trade Intensity U.S. Manufacturing and Mining Industries (2018)



Source: Business Impacts Subgroup Staff Working Group Analysis
Note: Industries are denoted by six-digit NAICS code.

Preliminary Results: Energy vs. Trade Intensity NYS Industries >2.5% Energy Intensity, >450 Jobs



Source: Business Impacts Subgroup Staff Working Group Analysis.
Note: Energy intensity and jobs thresholds used only for data visualization and do not represent formal criteria.

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Straw Proposal 1 – Carbon Tax

High-Level Design of a Carbon Tax

> Sectoral coverage
  - covered: Fuel use in all sectors; electricity; non-EITE industry emissions
  - not covered: waste sector methane leakage; agricultural process emissions; EITE emissions; aviation and ocean-going vessels

> Certainty of emission reductions: Price would be adjusted based on progress towards meeting statewide emission limits.
  - Program design would hardwire increasing prices if progress is inadequate
  - Program design would hardwire decreasing prices if progress is faster than needed.

> Price certainty: Escalating price would be established for each year, subject to any adjustments based on progress towards meeting statewide emission limits.

High-Level Design of a Carbon Tax

> Addressing climate justice
  - Program design: Could consider higher tax for stationary source emissions in DAC, but there are no precedents. Other options?
  - Investments: Meet CLCPA requirement for investment in DACs

> Affordability
  - Start with lower price; increase to level targeted to meet 2030 emission limit as choices become available
  - Rebates to LMI households

> Mitigating leakage: Exempt EITE industries

> Implementation
  - Requires legislation

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Straw Proposal 2 – Cap-and-Invest

High-Level Design of Cap-and-Invest

> Sectoral coverage: all Climate Act emissions attributed to New York, including energy, industrial process, waste, agriculture, etc
  - Subject to allowance budget: energy emissions except those that can't legally be covered (e.g. aviation), industrial process emissions
  - Under cap but not under allowance budget (due to legal and substantive challenges) -- budget is set by subtracting these sectors' emissions from cap: waste sector methane leakage; agricultural process emissions; aviation and ocean-going vessels

> Certainty of emission reductions:
  - Provided rigorous cap and allowance budget design, strong certainty of emissions reductions, including capturing interaction between allowance budget and non-allowance budget sectors

> Price certainty: Create price floor and reserve mechanisms (emissions containment and allowance price containment) to mitigate fluctuations

High-Level Design of Cap-and-Invest

- Addressing climate justice
  - Program design options:
    - Trading limits between DAC and non-DAC areas for stationary sources
    - Hard non-tradeable caps on stationary sources in DAC areas
    - Discount the value of allowances for stationary sources in DAC areas (functionally increasing the price in these areas)
    - Linkage predicated on environmental justice impacts
  - Investments: Meet CLCPA requirement for investment in DACs
- Affordability
  - Rebates to LMI households
  - Consider consignment mechanism for utilities where gas and electric utilities own allowances, sell them in state auctions and spend revenue on:
    - Fully mitigating any LMI impact
    - Securing other benefits for ratepayers, including non-volumetric rebates
- Mitigating leakage: Identified EITE sectors will receive no cost allowances proportional to the facility's output, a benchmark against a best-in-class comparable facility, and potentially a cap-decline factor (see subsequent slides)
- Implementation
  - Likely can be done via administrative authority
  - Legislature may need to appropriate proceeds for some investment categories

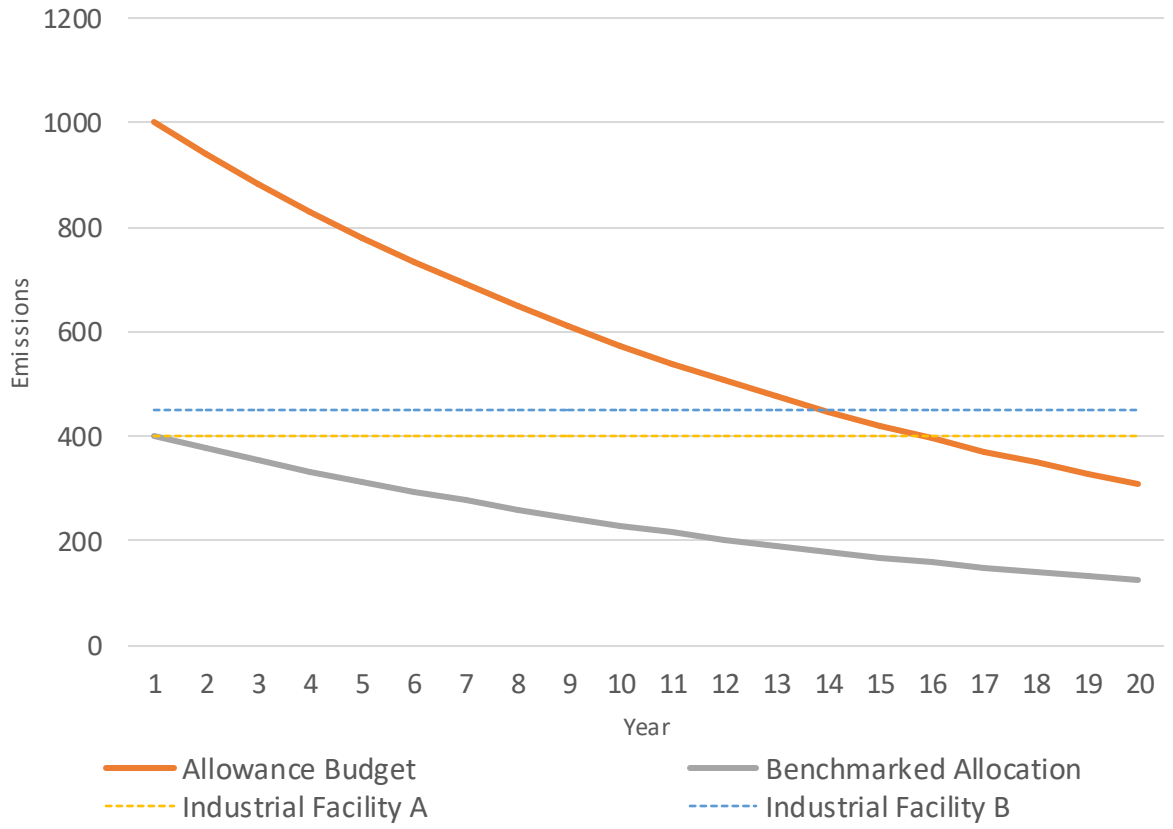
Mitigating leakage in Cap-and-Invest

Plant 1 – lower emission rate

Plant 2 – higher emission rate

Mitigating Leakage Option: Stronger Cap Certainty

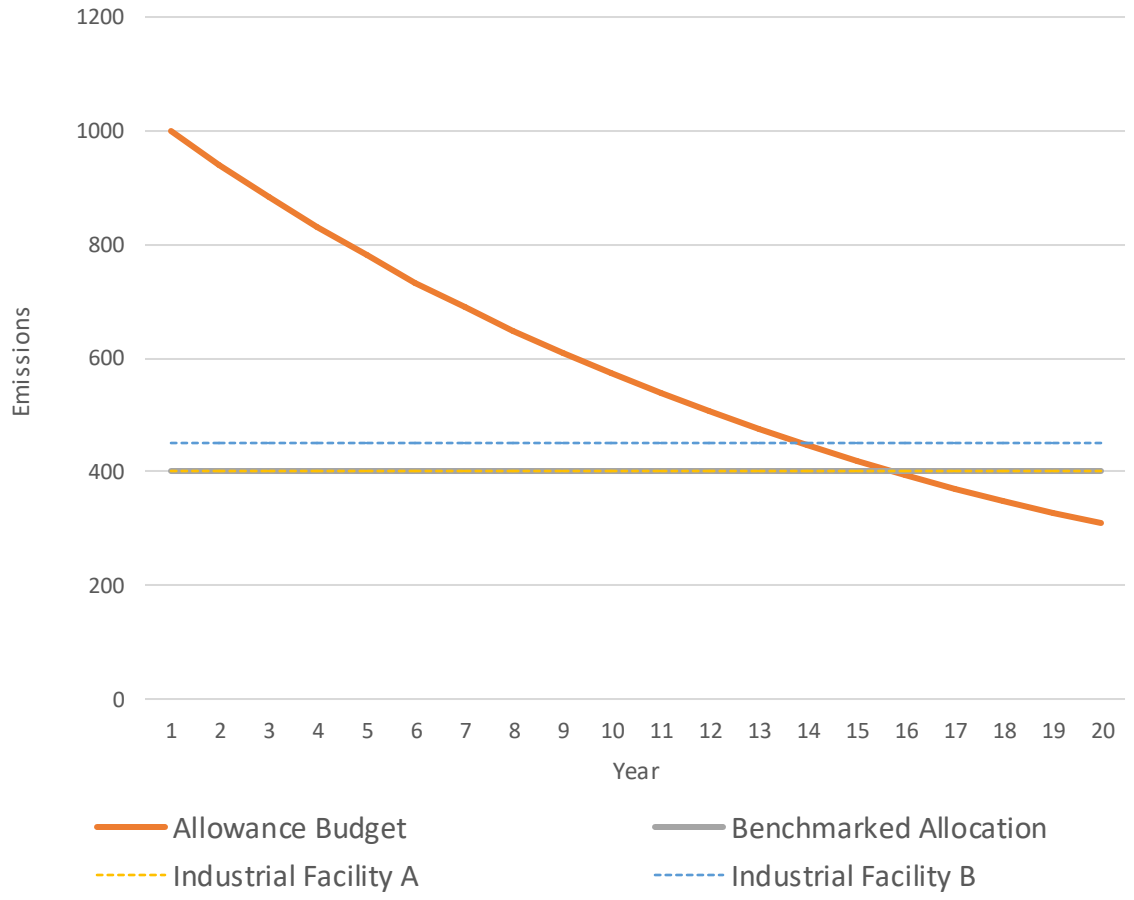
- Example:
  - System cap is 1000 tons that declines by 6%/year
  - Best-in-class Industrial Facility A emits 400 tons at a fixed production level
  - Average Industrial Facility B emits 450 tons at same production level
- Both facilities receive 400 no-cost allowances in year 1, reducing by 6%/year, adjusted by production volumes
- Benchmark occasionally reevaluated to reflect state of technology development
- Both Industrial Facility A and B must reduce or bear allowance costs; because B is an underperformer, it must reduce more.
- As the overall cap declines, availability of allowances goes down and these facilities would must reduce to stay under the cap (around years 14-16, though economic pressure to reduce starts much earlier) unless they have previously banked allowances.



Mitigating Leakage Option: Stronger Leakage Protection

- Example:
  - System cap is 1000 tons that declines by 6%/year
  - Best-in-class Industrial Facility A emits 400 tons at a fixed production level
  - Average Industrial Facility B emits 450 tons at same production level

- Both facilities receive 400 no-cost allowances every year, adjusted for production volumes
- Benchmark occasionally reevaluated to reflect state of technology development
- Industrial Facility B must reduce or bear allowance costs; Industrial Facility A may not worsen performance without incurring costs.
- In out-years, risk of conflict exists between EITE allocation and other sectors if benchmark improvements don't keep pace with overall cap



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Straw Proposal Discussion

How effective are these proposals at meeting the criteria?

Criteria	Carbon Tax	Carbon Tax Proposed Modifications	Cap-and-Invest	Cap-and-Invest Proposed Modifications
Sectoral coverage	Omits ag, waste, aviation, EITEs and others (around 25%)		Covers all sectors, allowance requirements for around 75%	
Emission certainty	Low to medium (in case of TAM)		High	

How effective are these proposals at meeting the criteria?

Criteria	Carbon Tax	Carbon Tax Proposed Modifications	Cap-and-Invest	Cap-and-Invest Proposed Modifications
Price certainty	High (in case of fixed trajectory); but medium (in case of TAM)		Low to medium (price floor and reserves mitigate fluctuation)	
Climate Justice	Medium (additional tax in DAC areas) to high (spending)		Medium (additional requirements in DAC areas) to high (spending)	
Affordability	Low (no or low price adjustment); mitigate with rebates		Medium (price adjusts in response to progress); mitigate with rebates	

How effective are these proposals at meeting the criteria?

Criteria	Carbon Tax	Carbon Tax Proposed Modifications	Cap-and-Invest	Cap-and-Invest Proposed Modifications
Mitigating leakage	Exemptions allow emissions to increase		Mitigated by free allocation, but emissions still covered by cap	
Economic development and innovation				
Implementation	Legislation		Existing Authority, except legislation needed for rebates	

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Key Takeaways

Prep for Meeting 8

> Monday, September 12; 2:00 – 4:00 PM

> Drafting a recommendation for an economy-wide policy to the CAC

> Homework

- Reflect on this discussion so we can discuss if the subgroup wants to recommend one of the straw proposals, components of each, or both as options for the CAC to consider

Thank You!

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